

E3. AGRICULTURE

Agriculture is the practice of farming, including cultivation of the soil for the growing of crops and the rearing of animals to provide food, wool, and other products. In agriculture and fishery sector, the municipal government's goal is to increase production and yield in rice, aquaculture and marine, livestock and high valued commercial crop (banana, fruit trees, abaca, vegetables, coconut, corn and cassava).

Rice is the major agricultural crop of the municipality. Based on the existing record, Lucio Laurel, Balete, Papandungin, Malayong, Kawit, and G. Antonino are the barangays with the biggest land areas devoted to rice production. Barangays Banus, Manguyang, Malayong, Malubay, Mirayan and Buong Lupa are the major banana-producing areas in Gloria. Saba variety is the major banana grown, the rest are Lacatan, Latundan and other minor varieties. Coconut is the third major agricultural crop. Barangay Maragooc, Banus, San Antonio, Sta. Maria and Manguyang are the major coconut-producing areas in Gloria. Vegetables are also abundant in the municipality. The common vegetable varieties grown are: Mongo beans, ampalaya, squash, peanut, and eggplant. Corn and fruits are the other agricultural crops that can also be found in Barangays Narra, Sta. Maria, Manguyang, and in the upland areas of the municipality.

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There are 10,010.05 hectares declared as agricultural land, all twenty seven (27) barangays are engaged into rice farming with the use of modern farming technology and post harvest facilities, ninety five percent (95.86%) or 2,672.25 hectares are classified as irrigated while 115.27 hectares are non-irrigated. Annual volume of production in irrigated rice fields are 22,757.80 metric tons with estimated value of PhP. 4.096 billion pesos while non-irrigated produces 4.0968 metric ton per year with estimated value of 14.99 million pesos.

There are 330 hectares engaged in corn production with 3.30% utilization, annual production is about 918 metric ton with estimated amount of eleven million pesos. Other agricultural crops utilized 7,007.70 hectares with annual volume of production of 56,062 metric tons an estimated values of 1.68 Billion Pesos. The total annual production of agricultural crops per metric ton is 80,619.70 with an estimated amount of 6.035 billion pesos, all products are intended for local and export markets. Rice farming is in medium level of hazard susceptibility in flooding and tropical cyclone.

Major Crop	Location	Area		Annual Production		Product Market	Number of Farmers	Number of Tenants	Type of Farming Technology	Existing Agricultural Support Facilities		Hazard Susceptibility (H/M/L)							
		ha	% Utilization	Volume (MT)	Value (PhP)					Pre Harvest	Post Harvest	Fl	Tc	Eq	Vo	Ln	Ts	Su	
1. Rice	27 barangays					Local & Export			Modern		Milling								
Irrigated		2,557	25.54%	22,757.30	4.096B						Cold Storage/ Multipurpose drying pavement	M	M	L	L	L	L	L	L
Non-irrigated		115.25	1.15%	882	14.99M						Market Centers	M	M	L	L	L	L	L	L
2. Corn		330	3.30%	918	11M	Local & Export			Modern		Warehouse	M	M	L	L	L	L	L	L
3. Others		7,007.80	70.01%	56,062	1.68B	Local & Export			Modern		Others (Fish Storage)	M	M	L	L	L	L	L	L
Total		10,010.05	100.00%	80,619.70	6.035B	Local & Export													

Source: Municipal Agriculture Office 2017

For the year 2013, there are 2,539 hectares of agricultural land used for rice production that produced 19,644 metric ton of palay, for the succeeding year, a minimal increase of 0.63% for rice production were noted resulting to 5.35% increase in volume of production. There is 1.17% increase of rice production

area for the year 2015 and 2016 and an increase of 8.49% volume of production.

Communal irrigation systems were built and maintained to increase rice production, in Upper and Lower Banus there are one hundred ninety five hectares of irrigated ricefields, in MABATIN area (Malayong-Banutan-Tinalunan) three hundred thirteen hectares are covered with irrigation project, members of A. Bonifacio Irrigators Association (ABIA) have 227.5 hectares of irrigated rice plantation, while four hundred forty eight (448) hectares owned by Calamundiingan Farmers and Irrigators Association are also irrigated, Balete-Papandungin area have four hundred sixty seven (467.6) hectares irrigated area, Agsalin Irrigators Association irrigates thirty two (32) hectares. Areas with High susceptibility to flooding are ABIA and BALPAN, while other rice areas have Medium susceptibility to flooding and tropical cyclone and low susceptibility in other type of hazards.

Water Irrigation Systems												
Irrigation System	Year Constructed	Type of Ownership	Type of Irrigation	Capacity of Irrigation System (cu3/day)	Area Served (ha)	Hazard Susceptibility (H/M/L)						
						Fl	Tc	Eq	Vo	Ln	Ts	Su
Small Scale												
1. Small Water Impounding and Management Projects		Public	Open Source		90.5	M	M	L	L	L	L	L
a. Malubay	1983											
b. Guimbonan	1975 -1977											
c. Kawit	2015											
2. Private Irrigation systems		Private	Open Source		24	H	M	L	L	L	L	L
a. G. Antonino												
3. Water Pumps (STW's)		Public/Private	STW		421.3	M	M	L	L	L	L	L
a. Agos												
b. Agsalin												
c. Kawit												
d. Narra												
e. Papandungin												
f. Balete												
4. Small Farm Reservoir		Public	Open Source		56	H	M	L	L	L	L	L
a. Sta. Theresa												
b. Maligaya												
c. A. Bonifacio												
d. Agsalin												
e. Lucio Laurel												
5. Communal Irrigation Proj.		Public	Open Source		1625.75	M	M	L	L	L	L	L
a. Agos to A. Bonifacio	1977											
b. Papandungin to Balete	1970											
c. Manguyang, Banutan, G. Antonino (MABATIN)	2007											
d. Lucio Laurel, Sta. Theresa Balete(CALFARIA)	1970											
e. Upper and Lower Banus	2005											
f. Agsalin, Banus	2017											
6. Solar Irrigation		Public	Open Source		55	M	M	L	L	L	L	L
a. Narra	2017											
b. Papandungin	2017											
7. Brgy. Irrigation Systems		Public	Open Source		111.5	M	M	L	L	L	L	L
a. Malamig												
b. Mirayan												
c. Buong Lupa												

Source: Municipal Agriculture Office 2017

Fifty (50) functional rice mills that can produce twenty cavans per hour are located in twenty seven (27) barangays same with ninety four (94) multi-purpose drying pavements that can accommodate fifty (50) bags of palay per day and warehouses that can accommodate three hundred thousand (300,000) cavans of palay. Major market centers are in Brgy. Maligaya, Malamig, Sta. Maria, Balete,, Lucio Laurel, G. Antonino and Banus. Post harvest facilities and equipments are very available for the rice farmers, there are three (3) flat bed dryers, one palay shed, forty nine (49) rice threshers, twelve (12) hand tractors, five (5) rice cutters. Food terminal is located at the compound of the Municipal Public Market.

Existing Agricultural Support Facilities and Services, Year 2017					
Post-Harvest Facilities and Support	Barangay	No.	% Utilization	Type/ Capacity	Remarks
Milling	21 barangays	50	50%	20 bags per hour	O
Cold Storage/Multipurpose drying pavement	all 27 barangays	94	45%	50 bags per day	O
Market Centers	Maligaya, Malamig, Sta. Maria, Balete, L. Laurel, G. Antonino, Banus	7			O
Warehouse	All 27 barangays	56	50%	300,000 bags	O
Others (Fish Storage...)					
Post harvest Facilities					
a. Rice Thresher	Mirayan	5			O
	Malubay	5			O
	Buong Lupa	2			O
	Papandungin	2			O
	Balete	2			O
	Banus	5			O
	Kawit	3			O
	Narra	2			O
	Alma Villa	4			O
	G. Antonino	2			O
	Agsalin	2			O
	Sta. Maria	2			O
	Banutan	2			O
	Guimbonan	2			O
	Manguyang	4			O
	Malayong	2			O
	Sta. Theresa	3			O
b. Combine Harvester	Balete	6			O
	Lucio Laurel	3			O
	G. Antonino	3			O
	Guimbonan	1			O
	Papandungin	1			O
c. Hand Tractors	LGU	1			O
	G. Antonino	5			O
	Papandungin	1			O
	Balete	5			O
	Maligaya	1			O
d. Flat Bed Dryer	G. Antonino	1			NR
	Banus	1			NR
	Guimbonan	1			NR
e. Rice Cutter	Kaligtasan, Banus	1			NO
	Guimbonan	1			NO
	Maligaya	1			NO
	Sta. Maria	1			NO
	Agsalin	1			NO
f. Palay Shed	Guimbonan	1			O
g. Food Terminal	Maligaya	1			O

Source: Municipal Agricultural Office 2017

Corn production has the smallest area for agricultural crops with one hundred two (102) hectares in 2013, however there is an 29.41% increase in area in the succeeding year that resulted to 35.73% increase in volume of production. A corn production area increase of 111.54% for the year 2016 resulted to 1,485 metric tons in volume of production.

Area of orchard plantation for the year 2013 has an estimated hectares of 144.00 and 150.43 for 2014 that produced 2,975 metric tons of fruits, for the year 2015 it has an area of 147.00 hectares and 158.00 hectares for 2016 with an increase rate of 7.48%, in terms of volume of production for the year 2015,

orchard production produced 78.00 metric ton and during 2016, 237 metric tons were produced or an increased of 203.85%.

For the year 2013 and 2014 the area of vegetable production is 285.00 hectares, produced 2,166 to 2,280 metric tons of vegetables. Increased in vegetable area can be noted for the year 2015 – 308 hectares and 2016 – 385 hectares with production volume of 2,310.00 and 3,080.00 metric tons respectively

Area of banana plantation for the year 2013 is 1,470 hectares with an increase of 15.92% or 1,704.00 hectares for the year 2014, and 2015 followed by 15.95% increase or 1,975.8 hectares for the year 2016. In terms of volume production, banana production has 161,700 metric tons for 2013, 25,560 metric tons for 2014, in 2015 it decrease by almost fifty percent or 12,780 metric tons, only 23.68% were increased for the year 2016 or an equivalent of 15,806 metric tons.

Damage irrigation system contributes to low rice production resulting to low income generation, other factors also are high cost of farm inputs while some farmers are still practicing traditional farming

In order to increase revenue in agricultural farming old irrigation system should be rehabilitated or improved, there is also a need to construct new irrigation system and farm-to-market roads for easy access of farm product delivery. A subsidy program from the government should also be granted to farmers especially to technology operators. Full operation of organic center should be practice to promote and improve organic farming.

Vegetables farmers suffered marketing problems due to over supply of products because of uncoordinated planting schedule and over application of synthetic chemical to prolong shelf life which is hazardous to human health. There should be an established ordinance on the operation of trading for easy and faster disposal of vegetables so that application of synthetic chemical will be lessened.

Banana fruits in the locality are classified as low quality due to banana plant diseases and careless handling. Banana farmers should educate on banana planting and harvesting.

Coconut

Coconut plantation having the biggest area in agricultural crop with 4,808 hectares for 2013 to 2015 and 4,415 hectares for the year 2016. For the year 2013 and 2014 coconut has an estimated 3,846 metric ton production, a minimal increase of 0.16% for the year 2016 or an equivalent of 15, 452 metric tons from the 15,428.00 production in 2015.

Major Crops	Area (ha)			Volume of Production (MT)			Area (ha)			Volume of Production (MT)		
	2013	2014	% Increase/Decrease	2013	2014	% Increase/Decrease	2015	2016	% Increase/Decrease	2015	2016	% Increase/Decrease
Rice	2539.00	2,555.00	0.63%	19644.00	20,695.00	5.35%	2,641.25	2672.25	1.17%	21,920.00	23,780.00	8.49%
Corn	102.00	132.00	29.41%	918.00	1,246.00	35.73%	156.00	330	111.54%	663.00	1,485.00	123.98%
Banna	1470.00	1,704.00	15.92%	16170.00	25,560.00	58.07%	1,704.00	1975.8	15.95%	12,780.00	15,806.00	23.68%
Coconut	4808.00	4,808.00	0.00%	3,846.40	3,846.40	0.00%	4408	4415	0.16%	15,428.00	15,452.00	0.16%
Orchard	144.00	150.43	4.47%	2880.00	2,975.00	3.30%	147.00	158	7.48%	78.00	237.00	203.85%
Vegetables	285.00	285.00	0.00%	2166.00	2,280.00	5.26%	308.00	385	25.00%	2,310.00	3,080.00	33.33%

Source: Municipal Agriculture Office 2017

All twenty seven (27) barangays are considered Crop-Sub-development Zone with a total area of four thousand three hundred fifty six (4,356) hectares.

Some coconut farmers are still in continuous cutting of coconut trees for commercial purposes and

some coconut trees are not more productive anymore, coco lumbers are more income generating due to lower value of coconut fruits and copra products. There is a need for establishment of coconut nursery for production of inputs materials. Coco Hub project of the municipal government will contribute to local residents in terms of coconut production and employment.

Fishery

Coastal barangays of Tambong, Kawit, San Antonio, Balete, Sta. Theresa, Guimbonan, Maragooc and Agsalin depend largely on fishing as the main source of their livelihood. The Agsalin Fish Sanctuary declared as Hall of Famer in Best Managed Marine Protected Area also 2nd Runner-up in Regional Malinis at Masaganang Karagatan 2017 and 2017 Para El Mar Most Outstanding Marine Protected Area in Philippines.

Based on Municipal Agriculture Office 2017 data, Barangay Agsalin is the top barangay with existing fishing grounds and aquaculture production with 36,180 metric tons or an equivalent value of PhP. 2,536,600.00 followed by Brgy. Tambong with 35,955 metric tons, a value of PhP. 2,516,850.00, third in fishing grounds and aquaculture production is Brgy. Sta. Theresa-34,960 metric tons production with a value of PhP. 2,438,100.00, next is Brgy. San Antonio with 30,960.00 metric tons with PhP.2,167,200.00 production vale, Brgy. Balete has a production of 22,446.00 metric tons valued to PhP. 1,571,220.00, while Guimbonan, Kawit and Maragooc produced 15,192.80 – 20,736.00 metric tons with a value of PhP. 1,063,440.00 to PhP. 170.00; 1,455,300.00. Among the coastal barangayss, Balete has a high hazard susceptibility in flooding, while San Antonio has medium hazard susceptibility, All nine (9) coastal barangays has medium hazard susceptibility in tropical cyclone and high hazard susceptibility in storm surge.

Fishing Grounds	Barangay	Production		Post-Harvest Facilities				Product Market	Hazard Susceptibility (H/M/L)							
		Volume (mt)	Value	Type	No.	Capacity	Status		Fl	Tc	Eq	Vo	Ln	Ts	Su	
Marine																
Tablas Strait	Tambong	35,955.00	2,516,850.00						L	M	L	L	L	L	L	H
	Kawit	20,170.00	1,455,300.00						L	M	L	L	L	L	L	H
	Balete	22,446.00	1,571,220.00						H	M	L	L	L	L	L	H
	San Antonio	30,960.00	2,167,200.00						M	M	L	L	L	L	L	H
	Sta Theresa	34,960.00	2,438,100.00						L	M	L	L	L	L	L	H
	Guimbonan	20,736.00	1,451,520.00						L	M	L	L	L	L	L	H
	Maragooc	15,192.80	1,063,440.00						L	M	L	L	L	L	L	H
	Agsalin	36,180.00	2,536,600.00						L	M	L	L	L	L	L	H

Source: Municipal Agriculture Office 2017

Strategic Agriculture and Fisheries Development Zones (SAFDZ) refers to the areas within the Network of Protected Areas for Agricultural and Agro-industrial Development (NPAAD) identified for production, Agro-Processing and marketing activities to help develop and modernize, either the support of government, the agriculture and fisheries sectors in an environmentally and socio-cultural sound manner. There are eleven (11) of SAFDZ as classified by Bureau of Soil and Water Management; 1. Strategic Crop Sub-development Zone, 2. Strategic Livestock Sub-development Zone, 3. Strategic Fishery Sub-development Zone, 4. Strategic Integrated Crop/Livestock Sub-development Zone, 5. Strategic Integrated Crop/Fishery Sub-development Zone, 6. Strategic Integrated Crop/Livestock/Fishery, 7. Strategic Integrated Fishery and Livestock Sub-development Zone, 8. Remaining NAPAAD Reservation, DS-Sand dunes/beach areas, NIPAS; Proposed Tourism, 9. Agro-Forestry Zone, 10. Watershed/Forestry Zone, and 11. Built-up areas, River Wash, Economic Zone, Military.

All coastal barangays in the municipality with a coastline of seventeen (17) kilometers are classified as Strategic Fishery Sub-development Zone.

Some fisherfolk are not aware of Republic Act 8550 or Philippine Fishery Code thus resulting to improper fishing activities and and mismanagement of fishery and aquatic resources in the municipal waters. There is need to reactivate and strengthen Bantay-Dagat in various coastal barangays to monitor illegal

fishing activities and law-violated incidents, Marine protected areas and fish sanctuaries should also be properly managed and maintained by the local government with the help of the community. Livelihood support from the local government should be continuously delivered to organized associations and deserving individuals.

Livestock and Poultry Farms

Based on the HLURB standards for commercial farm for large animals six (6) heads and above when it comes to poultry farm, 100 counts of heads will be considered as commercial. Less than 50 and 100 will be classified as backyard production. For commercial production, there are one hundred forty five (145) heads of cattle with a production value of PhP. 3,625,000, 1,455 heads of hogs worth PhP. 10,912,500.00 in terms of production value, 5,500 chicken broiler amounting to PhP. 825,000.00 and 7,000 chicken layer with a production value of PhP. 1,750,000.00. All livestock production are intended for local and export market, with medium hazard susceptibility only in tropical cyclone, only broiler chicken production has a high hazard susceptibility in flooding.

Existing Livestock and Poultry Farms, Year 2017															
Type	Barangay	Area (ha)	No. of Heads	Production Classification	Production		Product Market	No. of Tenants	Hazard Susceptibility (H/M/L)						
					Volume	Value			Fl	Tc	Eq	Vo	Ln	Ts	Su
Livestock															
Cattle	Banus	40	145	Commercial	145	3,625,000.00	Local & Export		L	M	L	L	L	L	L
Cattle	27 Brgys	60	3,570	Backyard	3,570	64,260,000.00	Local & Export		L	M	L	L	L	L	L
Carabao	27 Brgys	60	1,245	Backyard	1,245	24,900,000.00	Local & Export		L	M	L	L	L	L	L
Goat	27 Brgys	60	980	Backyard	980	2,450,000.00	Local & Export		L	M	L	L	L	L	L
Piggery	Banus, Sta. Maria	3	1,455	Commercial	1,455	10,912,500.00	Local & Export		L	M	L	L	L	L	L
Piggery	27 Brgys	15	3,320	Backyard	3,320	18,260,000.00	Local & Export		L	M	L	L	L	L	L
Poultry															
Broiler	Balete	0.5	5,500	Commercial	5,500	825,000.00	Local & Export		H	M	L	L	L	L	L
Broiler	27 Brgys	0.5	25,000	Backyard	25,000	3,750,000.00	Local & Export		L	M	L	L	L	L	L
Layer	Guimbonan	0.5	7,000	Commercial	7,000	1,750,000.00	Local & Export		L	M	L	L	L	L	L

Barangays Balete and Manguyang are also considered as Strategic Livestock Sub-development Zone with an area of twenty one hectares and eighteen hectares respective

There is no assigned Agricultural Technologist to focus on livestock production thus resulting to lower number of livestock in the locality, reproduction, artificial insimenation and other good practices were not considered.

There should be one personnel from the Municipal Agriculture Office that will focus on management practices strategies to increase the production of livestock, conduct of artificial insemination will also contribute a lot. A database for livestock industry must be establish for annual monitoring and updating of production rate.